

Declaration of Earnest Pacheco;

I intended to submit a petition for review of the PSD permit for The Russel City Energy Center in Hayward. I did not know how to submit it on my own so I shared it with Mr. Simpson who incorporated it into his petition. I am sorry if this creates confusion or difficulty for the Environmental Appeals Board. I do have issues that I would like heard by the Board. In reply to the response to Mr. Simpson's petition I offer the following.

I would like to offer these responses to some of the contentions made in RCEC LLC's, Response to the Petition for Review filed by CARE Inc, Bob Sarvey, and Rob Simpson

pg 49: RCEC Response to the Petition for Review CARE/Simpson. The Air District addressed this issue and disagreed with comments that there may be adverse environmental effects by ceasing to discharge the water into the Bay:

The Air District received some comments during the second comment period that were skeptical that using recycled cooling water from the City's wastewater treatment plant would actually provide environmental benefits. The comments stated that there may be adverse environmental effects by ceasing to discharge the water into the Bay

*****BAAQMD Response to Comments

The concern stated in the appeal refers to possible marsh restoration uses on the Hayward Shoreline and adjacent marsh restoration projects (see Hayward Area Shoreline Planning Agency's ; Preliminary Study of the Effect of Sea Level Rise on the Resources of the Hayward Shoreline @

<http://www.hayward-ca.gov/citygov/meetings/cca/rp/2010/rp031610-01%20attachment.pdf>

and the Fish and Wildlife Service's draft Tidal Marsh Recovery Plan @

http://ecos.fws.gov/docs/recovery_plan/TMRP/Segment%20maps%20r-z.pdf

this is the Hayward Shoreline component of the plan) that will need to use more tertiary water from the Hayward Water Pollution Control Facility and the other negative results from emission of this water vapor into the air as described later in this response.

pg 49 RCEC Response to the Petition for Review CARE/Simpson

The Air District disagrees that there would be a net environmental harm from using recycled water. The elimination of the wastewater discharge into the Bay will not have any detectable impact on overall water levels in the Bay. *The amount of wastewater at issue is on the order of 4 million gallons per day, which will not even amount to a 'drop in the bucket' compared to the total volume of water in the San Francisco Bay.*

*****BAAQMD Response to Comments (emphasis added)

This blithe statement would seem to undermine the applicants deceleration (and the District's undemonstrated, unproven parroting of the applicants contention) that emission of 4 million gallons a day of treated sewer water into the air is an environmental benefit.

How the increase of local ozone as a result of this unmodeled , unstudied emission is an environmental benefit is also unexplained.

The defects of the analysis of choosing a wet cooling Zero Liquid Discharge and All Vapor Emission System (ZLD/AVE) configuration for this proposed power plant include;

1) Violating the Clean Air Act (CAA) by not including the largest emission of the proposed RCEC as a factor in its emissions modeling, where such data is critical to determining compliance with the CAA;

A) The District did not model what the increase in local ozone will be as a result of the 12 billion lbs of H₂O vapor this facility will be permitted to emit annually.

B) The District's emissions modeling did not include the 12 billion lbs of H₂O vapor this facility will emit as a result of its ZLD/AVE configuration in its analysis of the production, chemical evolution, transport, distribution and deposition of any of the permitted pollutants.

C) The District did not analyze the impact of the 12 billion lbs of water vapor this facility will emit from its ZLD/AVE systems, will have on the health of nearby human and non human sensitive receptors.

D) The District did not analyze the what effect the 12 billion lbs of H₂O vapor will have on visibility.

Council for RCEC LLC attempt to build a straw man to argue against, the defect in the required modeling is not that the District did not model the amount of PM in the cooling tower blow down as the RCEC defends the District did, but that the District did not analyze in any way at all the effect of the 12 billion lbs of water vapor will have on local ozone production and the; production, chemical evolution, transport, distribution and deposition of the criteria pollutants, the effects on human receptors, or the listed endangered species that live nearby, or visibility.

All modeling conducted by the District excluded the 12 billion lbs of water vapor in its analysis. In over a dozen conversations I had with modelers and analysts from; the

California Air Resources Board, Stanford University, University of California Davis, private enterprise and the EPA's own expert staff in Triangle Park, the most common response was that this amount of introduced vapor could increase ozone production, and effect visibility and relative humidity.

The amount of ozone that 12 billion lbs of water vapor will produce is unstudied in this permits analysis.

The degree this change to the relative humidity and temperature will effect the criteria pollutants is not included in the District's defective modeling for this permit.

The effect that an additional 12 billion lbs of water vapor will have on the District's defective visibility modeling is not included in the analysis for this permit

The effect that these 12 billion lbs of water vapor will have on local sensitive receptors is unstudied in the District's analysis for this permit.

pg 49 RCEC Response to Petition for Review

Moreover, comprehensive evaluations were performed to determine the environmental impact of the Project on surrounding shoreline habitats and ecosystems, including nearby vernal pools, salt marshes and freshwater habitats. These impacts are addressed primarily through other regulatory mechanisms such as the Endangered Species Act and the California Environmental Quality Act ("CEQA"), not through the federal PSD regulations.

As a point of fact, no California Environmental Quality Act (CEQA) analysis was undertaken for the project. The applicant again provides the Board with misinformation concerning the most basic aspects of the California power plant rubber stamping process.

What was “conducted was an incomplete CEQA “equivalent”, the California Energy Commission’s poor cousin to a full CEQA analysis.

The PSD permitting process requires the concurrence of the EPA before the permit can be placed into the applicants hands by the PSD administrator (in this case the Bay Area Air Quality Management District [BAAQMD]) and therefore (in practice) from the federal Fish & Wildlife Service (Service) who participates in formal or informal consultation with the EPA on a proposed permit. As such this is a part of the PSD process and the defects articulated in Exhibit 6 of the CARE/Simpson petition are appropriate for review by the Board.

pg 50 RCEC Response to Petition for Review CARE/Simpson

Jurisdictional issues aside, EPA Region 9 and the U.S. Fish and Wildlife Service evaluated the potential for wildlife impacts in detail and concluded that the facility is not likely to adversely affect any endangered species.

Jurisdictional issues *not* set aside, the inadequate EPA- Service consultation and eventual concurrence with the PSD were action instigated by the PSD application and required to grant the applicant a PSD permit. The defects in these PSD triggered actions will result if uncorrected in the improper granting of a PSD permit. A PSD triggered consultation, and defects within that review are vital components of the PSD process and are appropriate for review by the Board.

These issues are addressed in greater detail in the original exhibit which is attached here for the Boards convenience, and I will be happy to address any questions regarding this

issue during oral arguments. I hereby declare under the penalty of perjury under the laws of the United States that the forgoing is true.

/
submitted by Ernest A. Pacheco
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Exhibit 6

**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

In re: Russell City Energy Center

PSD Appeal No.

Russell City Energy Company, LLC
Permit Application No. 15487

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2. **The District Did Not Analyze the Impacts of the Twelve Billion Pounds of H₂O Vapor this Facility Will Emit from it’s Zero Liquid Discharge System Will Have on the Health of Nearby Human and Non Human Sensitive Receptors.**

II. THE BOARD SHOULD REMAND THE PERMIT BECAUSE THE EPA-FISH & WILDLIFE CONSULTATION DID NOT STUDY OR CONSIDER THE EFFECT OF NUMEROUS NEGATIVE IMPACTS THIS PROJECT WILL IMPOSE ON THE ADJACENT ENDANGERED SPECIES PRESERVE AND SENSITIVE SHORLINE HABITAT

A. This Project Will Force the Federal Aviation Authority to Route Hundreds of Planes and Helicopters Directly Over the Endangered Species Preserve

B. The Fish & Wildlife Service Did not Consider the Effect of Numerous Negative Impacts on the Adjacent Endangered Species Preserve Before Issuing the Biological Opinion.

INTRODUCTION

Petitioner, Ernest Pacheco is a resident of the City of Hayward, California, petitions for review of the Prevention of Significant Deterioration Permit issued from the Bay Area Air Quality Management District (District) to Russell City Energy Center, LLC. The District is authorized to administer the Prevention of Significant Deterioration permit program under the Clean Air Act pursuant to a delegation of authority by the United States Environmental Protection Agency. The permit authorizes construction of a new 600-megawatt natural gas-fired power plant in the City of Hayward. The District committed numerous procedural and substantive violations of the Clean Air Act in issuing the permit. The Board should remand the permit and require the District to correct these violations.

Petitioner requests oral argument in this matter to assist the Board in its deliberations on the issues. The issues are a source of significant public interest and oral argument would materially assist in their resolution.

THRESHOLD PROCEDURAL REQUIREMENTS

Petitioner is a founding member of Citizens Against Pollution (CAP) and satisfies the threshold requirements for filing this Petition for Review of the proposed Prevention of Significant Deterioration (PSD) permit under 40 C.F.R. § 124. Petitioner has standing because he has participated in the public comment period on the draft permit as an individual and as a member of CAP.

ISSUES PRESENTED FOR REVIEW

1. The District erred in failing to include all necessary emission data in its analysis of this projects emissions and thus failed in its duty to correctly model the actual quantity and distribution of the regulated pollutants.

FACTUAL BACKGROUND

Russell City Energy Center (RCEC) is a 612-megawatt natural gas fired combined-cycle power plant proposed to be built in Hayward, Alameda County, California, by Russell City Energy Company, LLC. General Electric Corporation and a subsidiary of Calpine Corporation each own 35% and 65% of RCEC. The City of Hayward is home to a significantly larger non-white population than Alameda County as a whole, with over one third of Hayward residents being Latino, 19% Asian, and 12 % African American, The facility proposes to emit annually 2 million metric tons of CO₂ equivalents, 72 tons of PM, 330 tons of CO, 127 tons of NO_x, and toxic air contaminants or hazardous air pollutants such as ammonia, formaldehyde and benzene.

STANDARD OF REVIEW

The final PSD permit for RCEC may be set aside if it is based on a clearly erroneous finding of fact or conclusion of law, or involves an important matter of policy or exercise of discretion that warrants review. *See* 40 C.F.R. § 124.19.

ARGUMENT

I.

THE BOARD SHOULD REMAND THE PERMIT BECAUSE THE EMISSIONS MODELING FOR THE CRITERIA POLLUTANTS WAS NOT CONDUCTED WITH ALL THE NECESSARY DATA INPUTS TO ENSURE CORRECT MODELING AND COMPLIANCE WITH THE CLEAN AIR ACT

A. The District Violated the Requirements of the Clean Air Act by Not Including the Largest Emission of the Proposed Russell City Energy Center as a Factor in its Emissions Modeling, Where Such Information Is Critical to Determining the Compliance with the Clean Air Act.

1. The District's Emissions Modeling Did Not Include the Twelve Billion Pounds of H₂O Vapor this Facility Will Emit from its Zero Liquid Discharge System in its Analysis of the Production and Chemical Evolution, as Well as the Transport, Distribution and Deposition of Any of the Permitted Pollutants

The RCEC will be using a Zero Liquid Discharge system that will emit the entirety of the PSD permitted 4 million gallons a day (1) of tertiary treated water into the air and well over 1 billion,170 million gallons every year.

This permitted amount when converted to lbs (using the standard 8.35 lbs per gallon conversion) equals 33,400,000 lbs a day and 12,184,138,000 lbs a year. Again, the entirety of this incredible amount of vapor will be emitted into the air.

To provide some understanding of the enormity of these emissions it is helpful to look at them in relationship to the other emissions this facility will produce; the criteria pollutants PM, NO_x, CO, SO₂, as well as the Toxic Air Contaminates (TACs); formaldehyde (CH₂O), benzene (C₆H₆), and other large emissions; Sulfuric Acid Mist (SAM) and Precursor Organic Compounds (CH₄).

The combined total of the main permitted pollutants equals 1,164,138 lbs a year, and for just the criteria pollutants the total is 1,082,000 lbs a year (2). The ratio of water vapor emitted from the RCEC to the main pollutants will be a ratio of over 10,466 lbs to one, and breaking out just the criteria pollutants the ratio rises to over 11,260 lbs to one.

Even this facility CO₂ emissions of 4,250,912,457 lbs a year is dwarfed by this staggeringly large emission of 12,184,138,000 lbs of water vapor every year.

It is important to clarify that this huge quantity of emitted water vapor is a not part of the H₂O emissions that are produced in the combustion process of the fossil fuel the RCEC will burn , but a separate and unaccounted for emission.

A necessary component of the Air Quality Models that are used to determine whether a proposed project can operate within the federal, state and regional regulations that govern air quality, are of course such basic, foundational inputs as the modeled locations, temperature, and relative humidity. The unexamined billions of lbs of water vapor this facility will emit will have an obvious effect on both these foundational variables.

A wide array of modeling programs all require accurate relative humidity data to produce coherent results, a tiny sampling of models used by the EPA that incorporate

humidity inputs include; Dense Gas Dispersion Model (DEGADIS), ERT Visibility Model, HOTMAC/RAPTAD, PANACHE, OBODM, Plume Visibility Model (PLUVE II), SLAB, OZIPR. This small set is offered only to illustrate the wide spread necessity of including the correct humidity data for the meteorological, chemical, dispersal and deposition models that are needed for the proper analysis of fossil fuel mega projects like the RCEC.

The District did not include this significant consideration in the running of the Air Quality Models for the RCEC and accordingly the Board should remand the permit back to the District so that the models can be run with the correct and necessary data, and those results (and the method the District used to run the models) are available for public review and comment before any final PSD permit is issued.

2. The District Did Not Analyze the Impacts of the Twelve Billion Pounds of H₂O Vapor this Facility Will Emit from it's Zero Liquid Discharge System Will Have on the Health of Nearby Human and Non Human Sensitive Receptors.

The absence for modeling the impacts of the 12 billion lbs annual of introduced water vapor that will be emitted from the industrial process of RCEC's 4 million gallon a day emissions has been unstudied as to its direct effects separate from its inevitable impacts on the 1,164,138 lbs of permitted pollutants.

This huge amount of water vapor has possible effects on the health of the workers in and around the RCEC facilities and on the habitat and health of the numerous listed species that inhabit the adjacent Endangered Species Preserve and the protected habitat of the San Francisco Bay South Important Bird Area (4). The impact on the local sensitive habitat and sensitive receptors must be analyzed before a final PSD permit can be issued.

III. THE BOARD SHOULD REMAND THE PERMIT BECAUSE THE EPA-FISH & WILDLIFE CONSULTATION DID NOT STUDY OR CONSIDER THE EFFECT OF NUMEROUS NEGATIVE IMPACTS THIS PROJECT WILL IMPOSE ON THE ADJACENT ENDANGERED SPECIES PRESERVE AND SENSITIVE SHORLINE HABITAT

A. This Project Will Force the Federal Aviation Authority to Route Hundreds of Planes and Helicopters Directly Over the Endangered Species Preserve

The FAA has codified that pilots are now to fly upwind of power plant plumes, to avoid the hazards of flying through them, in our case this routes hundreds of helicopters and airplanes directly over the adjacent Endangered Species Preserve and into the San Francisco Bay South Important Bird Area. No analysis has been conducted to determine the degree of impact this will have to the adjacent listed species.

B. The Fish & Wildlife Service Did not Consider the Effect of Numerous Negative Impacts on the Adjacent Endangered Species Preserve Before Issuing the Biological Opinion.

Petitioner submits the following comments on this issue: From: East Bay Chapter of the California Native Plant Society

Re: In Support of Your Petition for Review to the Environmental Appeals Board of the Bay Area Air Quality Management District's PSD permit (Permit Application #15487) to Calpine for the Russell City Energy Center Power Plant

Dear Ernie:

The East Bay Chapter of the California Native Plant Society (EBCNPS) has previously participated in public comment to the Bay Area Air Quality Management District regarding the PSD permit for the Russell City Energy Center (see our letters of February 6, 2009 and April 9, 2009). We submit this letter as an addendum to CAP's Petition for Review to the EAB regarding BAAQMD's PSD permit to Calpine for the Russell City Energy Center power plant. The California Native Plant Society is a non-profit organization of more than 10,000 laypersons, professional botanists, and academics in 32 chapters throughout California. The Society's mission is to increase the understanding and appreciation of California's native plants and to preserve them in their natural habitat through scientific activities, education, and conservation.

Our specific comments on this project have always been set within the general context of the implausibility of siting a major power plant in the immediate vicinity of an extremely sensitive natural resource. In this case, the public is being asked to believe that there will be no major impacts to the salt marsh habitat and wildlife at Hayward Regional Shoreline

from the Russell City Energy Center. It is being asked to accept such a notion based on blind faith in the regulatory agencies rather than actual scientific data. As recently as two days ago, the US Fish & Wildlife Service admitted in an article on Bay Nature Magazine's website that it had not made a site visit. Such a casual approach to regulation belies the fact that endangered species of wildlife reside a few thousand feet from the proposed plant site.

Rather than invoking the precautionary principle that states that in such cases where the threat to the environment is highly likely because of large amounts of toxic emissions and the proximity of sensitive receptors, the regulatory agencies have dismissed the public's legitimate concerns. And they have done so without meeting any scientifically valid standard for concluding that there will be no significant impacts to these species.

BAAQMD stands behind its modeling protocols for determining potential impacts to the environment from the power plants that it regulates. Yet, the protocols do not address such important impacts as how toxic emissions affect small mammals and birds. Since the modeling protocols themselves are not representative of true exposure—a one-year chronic exposure limit is used despite the fact that the plant will operate for decades, and background levels of toxic emissions are not included to determine cumulative impacts of such compounds such as benzene, acrolein, and others—there is absolutely no scientific basis for concluding that the plant will not have significant impacts on the nearby wildlife or on the human population.

Among the most important overlooked impacts is the potential for acid rain to degrade habitat. Acid rain is not an unknown or unfamiliar phenomenon. RCEC will produce some 14,000 lbs. of sulfuric acid mist every year. What evidence has any regulatory agency used to conclude that there will not be a significant impact from acid rain or mist on *Salicornia* (pickleweed), an important food for the federally endangered Salt March Harvest Mouse? This is but one example of many unknown and unexplored impacts.

Our detailed letters of comment to BAAQMD on February 6, 2009 and April 9, 2009 discuss the many inadequacies of the environmental review of this complex project. They are part of the public record, and we refer the EAB to them for further information.

The East Bay Chapter of the California Native Plant Society believes that the Environmental Appeals Board must review the record of scientific evidence used by BAAQMD, USFWS, and the California Department of Fish and Game to conclude that RCEC will not produce major significant impacts to the sensitive receptors at the Hayward Regional Shoreline or to nearby human populations. We believe that proper indepth review will reveal an absence of actual data as well as an absence of appropriate models or even attempts to determine critical impacts. Finally, we strongly urge the EAB to apply the precautionary principle in its review and uphold its wisdom. Siting a major power plant a stone's throw from endangered species and their habitat defies common sense.

Sincerely,

Laura Baker, M.A, Ecology and Systematic Biology
Conservation Committee Chair
East Bay Chapter of the California Native Plant Society

I herby certify under penalty of perjury that the forgoing is true and correct.

Ernest A. Pacheco

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